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A new species of the genus *Gomphomastax* Brunner von Wattenwyl (Orthoptera: Eumastacidae: Gomphomastacinae) from Indian Kashmir

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Abstract. A new species, *Gomphomastax nigrovittata* Usmani, from Kashmir is described and illustrated. In addition to conventional morphological characters, genitalic structures are also studied. A key to known species of *Gomphomastax* from Indian Kashmir is given.

Key Words: Eumastacidae, Gomphomastacinae, *Gomphomastax*, new species, Key, Kashmir, India.

Introduction

The genus *Gomphomastax* was erected by Brunner von Wattenwyl in 1898 with two new species namely, *G. antennata* Brunner von Wattenwyl and *G. constrictus* Brunner von Wattenwyl from India, the former as type species. Bolivar (1927) described another species, *G. disparilis,* from Kashmir, India. Later in 1930, *G. constrictus* was transferred by Bolivar to his genus *Paedomastax*. Bei-Bienko (1963) revised *Gomphomastax* and reported 11 species, including 9 species from Dzungarian Ala Tau in the north to the mountains of Tadzhikistan in the southwest and 2 species, *G. antennata* and *G. disparilis*, from Kashmir in the southeast. He did not include the species *G. sijazovi* Uvarov (1914) from Turkestan and *G. carinata* Shumakov (1963) from Afghanistan. Later, Balderson and Yin (1991) described a new species, *G. kashmirica,* from Kashmir, India. Recently, 3 new species of *Gomphomastax* were described by Mahmood and Yousuf (1998) from Azad Kashmir, Pakistan. At present the genus is known to contain 18 species world-wide, with 4 species, including the one here described, occurring in Kashmir, India.

Key to species of the genus *Gomphomastax* recorded from Indian Kashmir

1. Female subgenital plate with 3 cusps at the end (Bei-Bienko 1963: fig. 88); vertex forms a distinct angle with frons; frontal ridge projects somewhat anteriorly between eyes; antennae without antennal organ **2**

— Female subgenital plate with 1 median cusp at the end and with a blunt process on each side (Fig. 2C); vertex does not form an angle with frons but passes into frons arcuately (Fig. 1C); frontal ridge projects anteriorly between eyes; antennae with antennal organ in apical fifth segment (Fig. 2E) ..... ***G. nigrovittata* Usmani sp. n**.

2(1). Hind tibiae with 14-19 spines on outer and 10-13 spines on inner margin; vertex separated from frons by transverse carina **3**

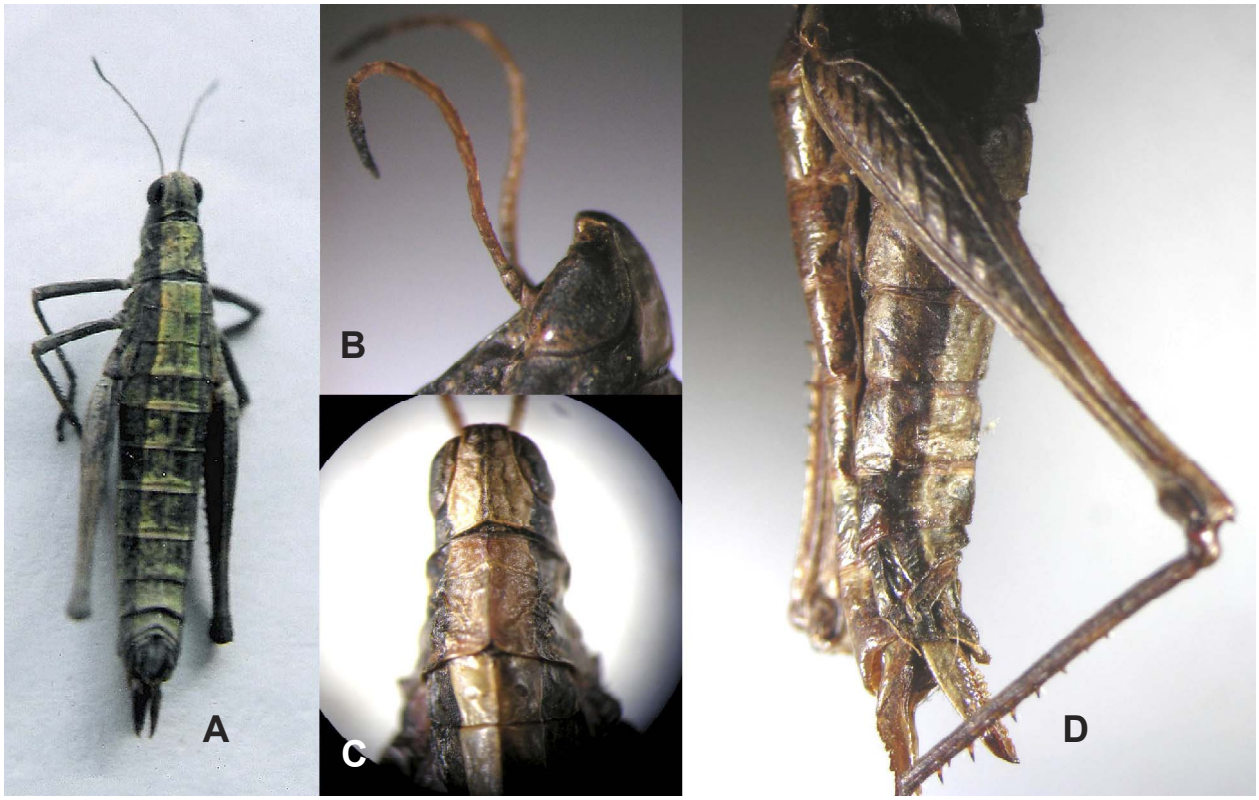

Figure 1. *Gomphomastax nigrovittata* sp. n., holotype female. **A)** Habitus. **B)** Antennae. **C)** Head and pronotum in dorsal view. **D)** Abdomen in lateral view.

— Hind tibiae with 16-24 spines on outer and 14-19 spines on inner margins; vertex not separated from frons by transverse carina ..... ***G. antennata* Brunner von Wattenwyl**

3(2). Vertex separated from frons by a weak, incomplete transverse carina ... ***G. disparilis* Bolivar**
— Vertex separated from frons by a distinctly marked medially interrupted transverse carina .... ***G. kashmirica* Balderson and Yin**

***Gomphomastax nigrovittata* Usmani sp. n.**
(Fig. 1-2)

Diagnosis. This new species is allied to *Gomphomastax antennata* and *Gomphomastax disparilis* but with a black longitudinal stripe on each side of the whole body and female subgenital plate ends with a single median cusp.

Description. Female holotype (Fig. 1A-D, 2A): Size small, integument rugulose.

Head. Not projecting above the pronotum; vertex elongate, flat, without raised margin, not separated from front; occiput with median carina slightly visible, foveolae not distinct; frontal ridge with a groove throughout its length, shallowed towards clypeus; eyes large, oval, projecting sideways, the greater diameter of eye about 1.19 times the length of subocular groove; interocular space about 3 times the width of frontal ridge between antennae; antennae filiform, slightly thickened and black apically, with antennal organ in apical fifth, 21-segmented, as long as head and pronotum together.

Thorax. Pronotum nearly saddle shaped, truncated behind, median carina visible but not much raised, lateral carinae absent; prosternal process absent; posterior lower angle of pronotum broadly rounded,

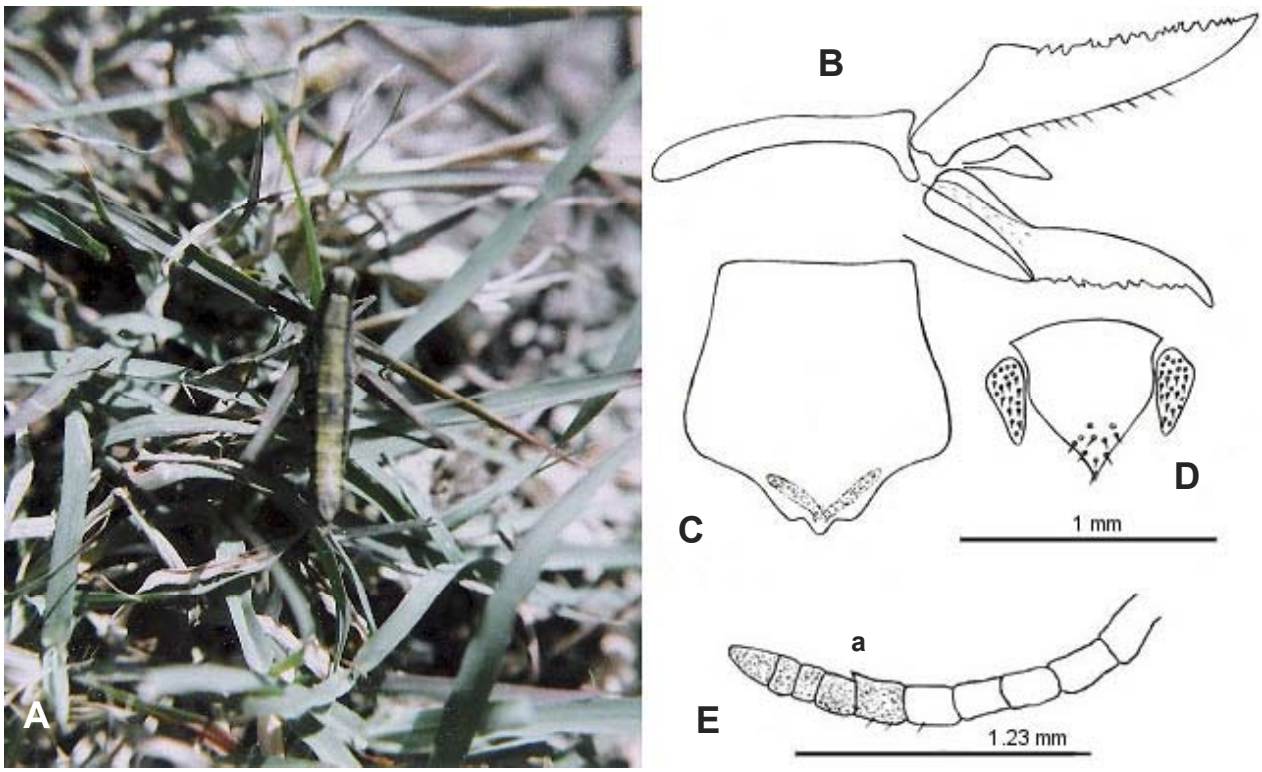

Figure 2. *Gomphomastax nigrovittata* sp. n. **A)** Female in its natural habitat. **B)** Ovipositor. **C)** Subgenital plate. **D)** Supra anal plate and cerci. **E)** Apex of antenna (a= antennal organ).

anterior lower angle nearly right angled; meso- and metasternal interspace open but metasternal interspace not as wide as mesosternal interspace; width of mesosternal interspace about 1.1 mm; tegmina and wings completely absent; hind femur with 6 distal spines and with spinules along upper carina and carinula; tibiae with two rows of spines on lower side, the spines of inner row longer than the outer one, spines black apically; apex of hind tibia with two pairs of spurs, the outer one of inner pair being longer than the rest; basal segment of tarsus with two rows of spines on lower side; arolium present, as long as lesser claw and shorter than larger claw.

Abdomen. Genitalia: Ovipositor (Fig. 2B), valves elongate, slightly curved and distinctly longer than lateral apodeme; dorsal valve moderately broad, four times as long as wide, apical tip narrow and acute, external ridge dentate; ventral valve moderately broad, apical tip elongate, acute and slightly curved, mesial tooth distinct, basivalvular sclerite narrow, elongate; mesial valve dilated apically. Subgenital plate (Fig. 2C), lateral and posterior margins convex and without setae; with one median cusp at the end; Jannone's organs present. Supra-anal plate short, triangular, longer than broad, scarcely setose; cercus broad, narrowing towards apex, about two times longer than its maximum width; apex rounded (Fig. 2D).

General coloration. Olive green with black longitudinal stripe on each side of entire body; pronotum yellowish green, hind femur blackish green; hind tibiae with spines black apically.

Male. Not known.

Type Material. HOLOTYPE female, INDIA: Kashmir (J&K), Sheikhpura Tulail Gureez, Altitude 8,000 ft., latitude 34.633º north, longitude 37.26º-80.30º east, on *Cynodon dactylon*, 9.x.2006, Coll. S. A. Reshi, det. by M. K. Usmani. Paratypes 5 f, with same data as holotype. Depository: Zoological Museum, Department of Zoology, Aligarh Muslim University, Aligarh, India (ZDAMU).

Host. *Cynodon dactylon* (L.) (Poaceae).

Measurements. Body 20 mm; head 4 mm; antenna 5 mm; pronotum 2.5 mm; hind femur 11 mm; hind tibia 10 mm.

Measurements of six females give the following ranges and means: Body length, 19.0-22.5 mm (mean 20.5 mm); head length, 3.5-4.5 mm (mean 4.0 mm); antenna length, 4.7-5.3 mm (mean 5.0 mm); pronotum length, 2.3-2.8 mm (mean 2.5 mm); hind femur length, 11.0-12.5 mm (mean 11.5 mm); hind tibia length, 9.8-10.6 mm (mean 10.2 mm).

Etymology. The name of new species is derived from Latin *nigro-* (black) and *vittatus* (stripe) in reference to the new species having a black stripe on each side of entire body from head to abdomen.

Discussion. The *G. nigrovittata* resembles *G. gussakovskii* Mishchenko from Tadzhikistan in having a black longitudinal stripe on both sides of the body but differs in several respects. *Gomphomastax nigrovittata* has the antennae black apically without light end; antennae in female distinctly longer than half of hind femora; and empodium between claws hardly longer than lesser claw and distinctly shorter than greater claw.

Careful study of key characters for species in the genus *Gomphomastax* presented by Bei-Bienko (1963) gives an impression that *G. nigrovittata* is closest to *G. antennata*, *G. disparilis*, and *G. kashmirica* (all from Kashmir) in having antennae black apically without light end. However, *G. nigrovittata* is distinct from *G. disparilis* and *G. antennata* in the following features: female subgenital plate ends with 1 median cusp and blunt process on each side; the entire body with a longitudinal black stripe on each side. *Gomphomastax nigrovittata* also differs from *G. kashmirica* in that the vertex does not form an angle with frons but passes into it arcuately, while it differs from all three previously described species from Kashmir in having an antennal organ on the apical fifth segment which are absent in the latter species.

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